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UNITED STATES DISTRICT COURT  
CENTRAL DISTRICT OF CALIFORNIA

8 ECOJET, INC.,

9 Plaintiff,

10 vs.

11 LURACO, INC.,

12 Defendant.

13 Case No. SACV 16-00487 AG (KESx)

14 FINDINGS OF FACT AND  
15 CONCLUSIONS OF LAW

16 Hon. Andrew J. Guilford

17 Courtroom: 10D

18 Complaint Filed: March 15, 2016

19 Trial Date: November 2, 2017

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1           After a bench trial, and under Federal Rule of Civil Procedure 52(a), the  
2           Court makes the following findings of fact and conclusions of law.  
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## **FINDINGS OF FACT**

5           The Court makes the following findings of fact, including any findings of fact  
6           found in the Conclusions of Law.

### **A. PRETRIAL ACTIVITY**

8           1. Plaintiff Ecojet, Inc. (“Ecojet”) filed a Complaint alleging that Luraco, Inc.  
9           (“Luraco”) infringes Claims 4 and 20 of U.S. Patent No. U.S. RE45,844 (the “’844  
10          patent”) by making, using, and/or selling four devices: Dura-Jet 3, Dura-Jet 3 LED,  
11          Dura-Jet 4, and Magna-Jet (collectively, “Accused Devices”). (Dkt. 1.)

12          2. Luraco answered Ecojet’s Complaint and brought counterclaims against  
13          Ecojet, including a counterclaim for declaratory relief of non-infringement. (Dkt. 77.)  
14          Before trial, the Court granted summary judgment in favor of Ecojet on all of Luraco’s  
15          counterclaims that the ’844 Patent is either invalid or unenforceable. (Dkt. 124.)

16          3. The ’844 Patent issued on January 19, 2016. (Trial Exhibit 27-001.) Claims  
17          4 and 20 of the ’844 Patent are independent claims that recite:

18           4. A jet pump sized and shaped for use in a basin of a  
19           pedicure chair or in a whirlpool bath wherein water is  
20           circulated, the jet pump comprising:

21           a housing supporting a motor rotatably coupled to an  
22           impeller so as to drive the impeller about an axis, the  
23           housing comprising a shoulder configured to mount  
24           the housing to a wall of the pedicure chair or  
25           whirlpool bath so that a housing front part extends  
26           into the basin;

27           a cap having an outer surface, an inner surface, and a  
28           circumferential rim, the cap releasably engaged with  
29           the housing front part so as to define an interior  
30           chamber between the cap inner surface and a housing  
31           inner surface of the housing front part, the cap  
32           comprising a plurality of spaced-apart holes formed  
33           through the cap and defining an inlet aligned with the  
34           axis, ***a wall being formed circumferentially on the***

*inner surface of the cap surrounding the plurality of spaced apart holes of the inlet between the holes of the inlet and the circumferential rim, and an outlet opening between the inlet and the circumferential rim, the outlet opening having a nozzle thereabout, the nozzle formed on the outer surface of the cap;*

the housing inner surface comprising a flat portion that lies in a plane normal to the axis and has a reference slope, and an inclined portion disposed radially outwardly from the flat portion, a first point on the inclined portion having a first slope that is greater than the reference slope, the housing inner surface terminating at an outer edge and having a second slope at or adjacent the outer edge, the second slope being greater than the first slope;

the outer edge being circular, the inner surface of the cap releasably engaging the outer edge so that the outlet opening is aligned with the housing inner surface at or adjacent the outer edge; and

the impeller disposed within the interior chamber and comprising a plurality of vanes that extend radially outwardly from the axis, the impeller being rotatable by the motor to draw water axially through the inlet and direct the water radially within the interior chamber so that the water flows over the inclined portion and through the outlet opening and nozzle, whereby water is projected from the nozzle into the basin.

20. A jet pump sized and shaped for use in a basin of a pedicure chair or in a whirlpool bath wherein water is circulated, the jet pump comprising:

a housing supporting a motor rotatably coupled to an impeller so as to drive the impeller about an axis, the housing comprising a shoulder configured to mount the housing to a wall of the pedicure chair or whirlpool bath so that a housing front part extends into the basin;

a cap having an outer surface, an inner surface, and a circumferential rim, the cap releasably engaged with the housing front part so as to define an interior chamber between the cap inner surface and a housing

1 inner surface of the housing front part, the cap  
2 comprising a plurality of spaced-apart holes formed  
3 through the cap and defining an inlet disposed at and  
4 adjacent the axis, *a wall being formed by the inner*  
*surface of the cap between the plurality of spaced*  
*apart holes of the inlet and the circumferential*  
*rim, the wall extending circumferentially so as to*  
*substantially surround the holes*, and an outlet  
5 opening is radially spaced from the inlet, the outlet  
6 opening communicating with a nozzle formed on the  
7 outer surface of the cap;  
8 the housing inner surface extending radially outwardly  
9 from the axis and terminating at a circular outer edge,  
10 a first portion of the housing inner surface being  
11 radially spaced a distance from the axis and having a  
12 first slope relative to a plane defined normal to the  
13 axis, a second portion of the housing inner surface  
14 disposed radially outwardly from the first portion and  
15 defined at and adjacent the outer edge, the second  
16 portion of the housing inner surface at a point along  
17 the second portion having a second slope relative to a  
18 plane defined normal to the axis, the second slope  
19 being greater than the first slope;  
20 the inner surface of the cap releasably engaging the  
21 circular outer edge so that the outlet opening is  
22 aligned with the second portion of the housing inner  
23 surface; and  
24 the impeller disposed within the interior chamber and  
25 comprising a plurality of vanes that extend radially  
26 outwardly from the axis, the impeller being rotatable  
27 by the motor to draw water axially through the inlet  
28 and direct the water radially within the interior  
chamber so that the water flows over the first portion  
and second portion of the housing inner surface and is  
directed toward and through the outlet opening of the  
cap, and further through the nozzle and into the basin.

26 '844 Patent, Claims 4 & 20 (emphasis added).

1       4. On December 13, 2016, the Court issued a Claim Construction Order  
2 construing “‘a wall’ to mean ‘a dividing structure that separates a volume.’” (Dkt. 60 at  
3 7.) As part of its Claim Construction Order, the Court observed:

4           The intrinsic record as a whole suggests that the wall cannot  
5 be merely a boundary defining a space, as proposed by  
6 Plaintiff. Rather, it must be capable of dividing or directing a  
7 volume of water. Defendant’s proposed construction is more  
8 consistent with the patent’s disclosures, but Defendant has  
9 not cited any portion of the specification stating that a wall  
10 must be an “upright” structure. Although some of the  
11 embodiments disclose walls that stand at right angles to the  
12 base, the claim term need not be limited to such a  
13 configuration.

14           *(Id.)*

15       5. In preparation for trial, the parties stipulated to the following facts:

16           • “The ’844 patent is valid and enforceable.”

17           • “Ecojet is the exclusive licensee of the ’844 patent with the right to  
18           enforce the patent against infringers.”

19           • “On January 19, 2016 Luraco was manufacturing, offering to sell, and  
20           selling within the United States, and thereafter has continued to  
21           manufacture, offer to sell, and sell within the United States, water jet  
22           mechanisms for use in a pedicure that it sells under the brand names  
23           Dura-JET 3, Dura-JET 4, and Magna-JET.”

24           • “Each of the Accused Products use the same cap.”

25           • “The Accused Products practice all elements of claims 4 and 20 of the  
26           ’844 patent, except the following two limitations included in both claim  
27           4 and claim 20, which the Defendant denies:

28                1) the cap has ‘a wall being formed circumferentially on the  
inner surface of the cap surrounding the plurality of spaced  
apart holes of the inlet between the holes of the inlet and the  
circumferential rim,’ and

2) ‘the housing inner surface comprising a flat portion that lies in a plane normal to the axis and has a reference slope . . .’

3 (Dkt. No. 125-1, at 2–3 (Parties’ Proposed Final Pretrial Conference Order).) The  
4 Court takes all of these facts as true and undisputed.

## B. TRIAL EVIDENCE AND TESTIMONY

6. Dr. Le designed the cap so that it would assist in separating inlet flow from the outlet flow, which was necessary for the pump to function. (Dkt. 155 (Trial Transcript, November 2, 2017 (“Tr. Day 1”)) at 125:12-126:1.) He accomplished this by bringing the portion of the cap between the inlets and the outlets “very close” to the spinning impeller, which creates pressure in this area preventing the outflow from backing out the way it flowed in. (*Id.*; *see also id.* at 129:16-25.) Dr. Le went through several cap iterations before finding the optimal design. (*Id.* at 124:13-15.)

7. Dr. Le testified that, at the urging of his counsel, changes exist for the cap of the Accused Devices to make the inside surface completely flat. (Dkt. 156 (Trial Transcript, November 3, 2017 (“Tr. Day 2”)) at 60:15-22.)

8. Plaintiff's expert, Dr. Michael Johnson, testified that, as the impeller of the Accused Devices spin, it causes reduced pressure at the inlet causing water to be drawn in and then subsequently expelled at the outlets. (Tr. Day 1 at 57:5-14, 58:3-59:14, 77:1-6.)

9. Dr. Johnson demonstrated this functionality with a computer simulation developed with Computer Assisted Design/Drafting (“CAD”) drawings of the Accused Devices produced by Luraco. (Tr. Day 1 at 49:21-60:7.) The computer simulation was introduced over Luraco’s objection and “subject to further objections and a motion to strike.” (*Id.* at 50:12-17, 50:24-51:6, 51:16-23.)

10. Dr. Johnson identified the structure between the cap's inlet and outlet of the Accused Devices as the wall that separated the volume flowing into the Accused Devices from the volume flowing out of the Accused Devices. (*Id.* at 58:19-60:6, 78:16-24, 106:20-107:25.) The structure Dr. Johnson identified was a part of the cap itself and

1 not any additional structure connected to or protruding from the cap at any angle. (*Id.* at  
2 78:21-22 (“It’s the structure **of the cap** between the inlet holes and the outlet, this area  
3 right in here.” (emphasis added)).)

4 11. Dr. Johnson testified that all pipeless pumps require a “wall structure” to  
5 work otherwise there would be no organized flow. (*Id.* at 73:17-21, 80:8-23, 106:12-  
6 107:21.) He acknowledged, however, that this structure for separating volumes can be  
7 implemented differently. (*Id.* at 71:22-72:8.)

8

## 9 **CONCLUSIONS OF LAW**

10 The Court makes the following conclusions of law, including any conclusions  
11 of law found in the Findings of Fact.

12 12. “[P]atent infringement involves two steps: (1) claim construction to  
13 determine what the claims cover, *i.e.*, their scope, followed by (2) determination of  
14 whether the properly construed claims encompass the accused structure.” *Cole v.*  
15 *Kimberly-Clark Corp.*, 102 F.3d 524, 528 (Fed. Cir. 1996). “To infringe a claim, each claim  
16 limitation must be present in the accused product, literally or equivalently.” *Dawn Equip.*  
17 *Co. v. Ky. Farms, Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998). The patentee must establish  
18 infringement by a preponderance of the evidence. *Cross Med. Prods. v. Medtronic Sofamor*  
19 *Danek, Inc.*, 424 F.3d 1293, 1310 (Fed. Cir. 2005).

20 13. Plaintiff has failed to establish by a preponderance of the evidence that the  
21 Accused Devices have a “wall” on their caps as required by Claims 4 and 20 of the ’844  
22 Patent.

23 14. Most of Plaintiff’s submitted evidence discusses how the space between the  
24 inlet holes and outlet is designed so that water doesn’t flow the wrong direction.  
25 Specifically, Plaintiff refers to testimony from Dr. Le explaining that the cap and  
26 spinning impeller are very close to one another, creating a small space where fluid only  
27 flows one direction. (Tr. Day 1 at 111:3-24, 125:12-126:1.) Plaintiff characterizes this  
28 testimony as an admission that the cap can separate volumes of water. In other words,

1 Plaintiff focuses on the functional aspect of the Court’s construction of “wall” (“a  
2 dividing structure ***that separates a volume***”). For this aspect, the bulk of Plaintiff’s  
3 admissible evidence comes from Dr. Le’s testimony. But even though Dr. Le opined that  
4 fluid flows only one direction due to the proximity between the cap and impeller (*id.* at  
5 129:16-25), Dr. Le never opined that a structural wall exists between the inlet holes and  
6 outlet of the cap that facilitates this fluid flow.

7       15. At trial, Plaintiff’s expert, Dr. Johnson, also focused on the functional  
8 aspect of the Court’s construction. Plaintiff, through Dr. Johnson, attempted to  
9 introduce simulations modeling fluid flow at different places in the cap to support his  
10 opinion that there is a “wall” separating volumes between the inlet holes and outlet holes  
11 of the caps in the Accused Products. (Tr. Day 1 at 49:21-60:7.) But Dr. Johnson did not  
12 disclose the simulations during expert discovery and cannot rely on them as admissible  
13 evidence supporting his opinion testimony regarding fluid flow. Despite testimony  
14 elicited from Dr. Johnson that the simulations simply graphically depicted what he  
15 already knew (57:24-58:1), he also stated, “[o]ne thing that’s very difficult is how do I  
16 know what’s happening inside [the pump] . . . So using computational fluid dynamics . . .  
17 enables me to understand what is happening within the chamber.” (*Id.* at 52:23-53:7.)  
18 These statements undercut Plaintiff’s argument that the simulations were simply  
19 demonstratives for trial. Defendant’s trial objections to the simulations are sustained to  
20 the extent the simulations were used as evidence to depict changes in fluid flow inside  
21 the cap.

22       16. Dr. Johnson also identified the “structure” between the inlet holes and  
23 outlet of the cap of the Accused Device as the “wall” recited by Claims 4 and 20 of the  
24 ’844 Patent. (Tr. Day 1 at 58:19-60:6, 78:16-24, 106:20-107:21.) However, he premised  
25 many of his opinions about the “structure” on his discussions of fluid flow through the  
26 inadmissible simulations. (*See, e.g., id.* at 58:19-60:6.) More importantly, what Dr. Johnson  
27 actually identified as the wall “structure” was simply the general surface of the cap itself  
28 between the inlet holes and outlet. (*Id.* at 78:21-22 (“It’s the structure ***of the cap***

1 between the inlet holes and the outlet, this area right in here.” (emphasis added).) The  
2 Court’s construction of “wall” requires a “structure,” not simply a “boundary defining a  
3 space.” (Dkt. 60 at 7.) Although it’s possible that features on the surface of the cap could  
4 meet the “wall” limitation (even if those features were not completely “upright”),  
5 Plaintiff has not presented sufficient evidence identifying particular features on the cap  
6 surface of the Accused Product that meet this limitation.

7       17. Finally, Plaintiff implies that Dr. Le’s subsequent changes to the cap design  
8 shows Luraco has known its current design has a wall that meets the limitations of  
9 Claims 4 and 20 of the ’844 Patent. (Tr. Day 1 at 60:15-22.) This argument is  
10 unpersuasive. Anything that could be gleaned from this testimony about Luraco’s  
11 subjective beliefs regarding possible infringement presents a separate question from  
12 whether the Accused Products actually infringe. *Hilton Davis Chem. Co. v. Warner-*  
13 *Jenkinson Co.*, 62 F.3d 1512, 1527 (Fed. Cir. 1995) (en banc) (patent infringement itself is  
14 a strict liability offense).

15       18. Because Plaintiff has failed to show by a preponderance of the evidence  
16 that the cap of each Accused Device includes a “wall” meeting the “wall” limitation of  
17 Claims 4 and 20 of the ’844 Patent, Plaintiff has failed to prove that the Accused Devices  
18 infringe Claims 4 and 20 of the ’844 Patent.

19

20 **DISPOSITION**

21       The Court **DENIES** Ecojet’s cause of action for infringement of Claims 4 and  
22 20 of the ’844 Patent in its entirety and **GRANTS** Luraco’s counterclaim for a finding  
23 of non-infringement of Claims 4 and 20 of the ’844 Patent. The Court reaches this  
24 result after reviewing all arguments and evidence presented in this matter, including at  
25 trial and in the parties’ Closing Argument briefs (*See* Dkts. 158, 159, 161). Any  
26 arguments not specifically addressed were either unpersuasive or not necessary to  
27 reach considering the Court’s holdings.

28       Luraco’s counsel is directed to prepare the judgment and promptly file and

1 serve it on Ecojet. Ecojet shall have 14 days from the date of service of the proposed  
2 judgment to file any objections to the proposed judgment. If no objections are  
3 received within 14 days, the judgment will be entered immediately, and Federal Rule  
4 of Civil Procedure 52(b) will apply on entry of the judgment.

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Dated: May 30, 2018

Andrew J. Guilford  
United States District Judge